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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,739	12/06/2004	Shoji Tokuda	427972000600	4562

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EXAMINER

SALVATORE, LYNDIA

ART UNIT	PAPER NUMBER
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1771

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07/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/516,739

Applicant(s)

TOKUDA ET AL.

Examiner

Lynda M. Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment and accompanying remarks filed 3/23/07 have been fully considered and entered. Claims 1-2, 4-8 and 10-12 have been amended and new claims 13-14 have been added as requested. Claims 3 and 9 are canceled. Applicant's amendments are found sufficient to overcome the anticipation rejection set forth in 3 of the Office Action dated 12/28/06. As such, this rejection is hereby withdrawn. However, Applicant's amendments are not found patently distinguishable over the prior art of record and Applicant's arguments are not found persuasive of patentability. Accordingly, in view of Applicant's amendments the following necessitated new ground of rejection is set forth herein below.

Election/Restrictions

2. Claims 6 and 12 previously directed to a method have been amended to recite product by process claims. Since, claims 6 and 12 have been amended such that they are now part of the originally elected group, claims 6 and 12 are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 4, 7-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al., US 5,437,918

Applicant amended claim 1 to recite a content of lactide of at most 15% based on the weight of the medium. Applicant argues that the prior art of Taniguchi et al., fails to teach this

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limitation. Applicant submits that purifying the lactic acid polymer produce the claimed electret media having the claimed degree of crystallinity and charge stability. Applicant argues that the prior art of Taniguchi et al., does not disclose an electret media. These arguments are not found persuasive.

With regard to Applicant's argument that the prior art of Taniguchi et al., does not teach an electret media, it is the position of the Examiner that other than setting forth the content and composition of the lactide in the filter medium, Applicant has not set forth any characteristics which would patently distinguish the non-woven of the prior art from the claimed electret filter medium. As such, the Examiner maintains that since the prior art of record meets all of the chemical and/or structural limitations of the filter medium there is nothing on record to evidence that the non-woven fabric of Taniguchi et al., could not function in the desired capacity of an electret filter.

With regard to Applicant's argument that purifying the lactic acid polymer results in the claimed electret media having the claimed degree of crystallinity and charge stability, it is respectfully pointed out that claim 1 does not recite any type of purifying step. As such, Applicant's arguments are not commensurate in scope with the claimed subject matter of claim 1.

With regard to Applicant's newly added limitation directed to the amount of lactide present in the filter medium, the prior art fails to teach a content of at most 15%. Rather, it appears that the prior art of Taniguchi et al., teach employing the lactic acid base polymer in amounts ranging from 28-35 wt. % (table 6, column 18, 20-35). However, it is the position of the Examiner that absent unexpected results to the contrary, it would have been obvious to one having ordinary

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skill in the art at the time the invention was made to optimize the amount of lactide in the non-woven to achieve a desirable balance of properties. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233

The patent issued to Taniguchi et al., teach a non-woven fabric comprising filaments made of one or more lactic acid based polymers such as a poly (DL-lactic acid) having more than 80 mol % of L-lactic acid units (abstract). Taniguchi et al., teach in a table 1 an example having molar ratio of L-lactic acid monomer units to D-lactic acid monomer units of 85 L-lactic acid units and 15 D-lactic acid units (column 13, table 1). With regard to the intended use of an electret filter, it is the position of the Examiner that since the prior art of record meets the all of the chemical and/or structural limitations of the filter medium there is nothing on record to evidence that the non-woven fabric of Taniguchi et al., could not function in the desired capacity of an electret filter. Applicant is invited to prove otherwise.

With regard to the amount of lactide present in the filter medium, the prior art fails to teach a content of at most 15%. Rather, it appears that the prior art of Taniguchi et al., teach employing the lactic acid base polymer in amounts ranging from 28-35 wt. % (table 6, column 18, 20-35). However, it is the position of the Examiner that absent unexpected results to the contrary, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of lactide in the non-woven to achieve a desirable balance of properties. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233

With regard to phrase “consisting essentially of”, the burden of establishing that any composition components of the prior art references applied by the Examiner is excluded from the claims as argues appropriately rests the Appellants. *In re Herz*, 190 USPQ 461 (1976) and *Ex parte Hoffman*, 12 USPQ 2d 1061 (1989). Applicant bares the burden of proof in establishing that non-recited components materially change the characteristics of Applicant’s invention *In re DeLajarte* 143 USPQ 256

The prior art of Taniguchi et al., fail to teach the claimed endotherm, crystal fusion and charge density properties, however, it is reasonable to presume that said properties are inherent to the non-woven fabric of Taniguchi et al. Support for said presumption is found in the use of like materials such as L and D lactic acid monomers and the use of like processes such as forming a non-woven fabric, which would result in the claimed endotherm, crystal fusion and charge density properties

4. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al., US 5,437,918 in view of Raetzsuch et al., US 6,537,473

Taniguchi et al., fail to teach adding nucleating agents to the poly-lactic acid polymer composition, however, it is commonly known in the art that nucleating agents are added to polymers to increase the crystallization rate and the overall percent crystallinity of the polymer (<http://www.specialchem4polymers.com/tc/nucleators/>). To that end, the patent issued to Raetzsuch et al., teach polymer filaments having .05 to 1% of a nucleating agent (column 5, 45-55).

With regard to phrase “consisting essentially of”, the burden of establishing that any composition components of the prior art references applied by the Examiner is excluded from the

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claims as argues appropriately rests the Appellants. *In re Herz*, 190 USPQ 461 (1976) and *Ex parte Hoffman*, 12 USPQ 2d 1061 (1989). Applicant bares the burden of proof in establishing that non-recited components materially change the characteristics of Applicant's invention *In re DeLajarte* 143 USPQ 256

Therefore, motivated by the desire to increase the crystallization rate and the overall percent crystallinity of the polymer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add a sufficient amount of nucleating agent to the poly(DL-lactic) acid polymer of Taniguchi et al., as taught by Raetzsuch et al.

5. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al., US 5,437,918 in view of Angadjivand et al., US 6,375,886.

The prior art of Taniguchi et al., fails to teach the process limitations set forth, however, the patent issued to Angadjivand et al., teach making a non-woven electret web by cooling the web in the presence of an electric field (column 13, 30-45). Angadjivand et al., teach that such cooling traps the charge (column 13, 30-45). Suitable electric fields include the claimed corona current (column 10, 1-10).

Therefore, motivated by the desire to form an electret non-woven, it would have been obvious to one having ordinary skill in the art to treat the non-woven web provided by Taniguchi et al., with the electric charge methods taught by Angadjivand et al. Specific motivation to employ the web of Taniguchi et al., is found in the desire to form a biodegradable electret non-woven.

6. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi et al., US 5,437,918 in view of Gruber et al., US 5,142,023.

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Taniguchi et al., does not teach the claimed purifying steps, however, the patent issued to Gruber et al., teach purifying lactide polymers with distillation (title and column 14, 50-60). Specifically, Gruber et al., teach employing vapor distillation to remove low molecular weight oligomers which may be present (column 6, 5-26). Gruber et al., further teach that an object of the invention is to provide biodegradable lactide polymers.

Therefore, motivated by the desire to remove the impurities within the lactide polymer to produce a biodegradable polymer, it would have been obvious to one having ordinary skill in the art at the time the invention was made to distill the lactide polymers of Taniguchi et al., as taught by Gruber et al.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M. Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 25th, 2007

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